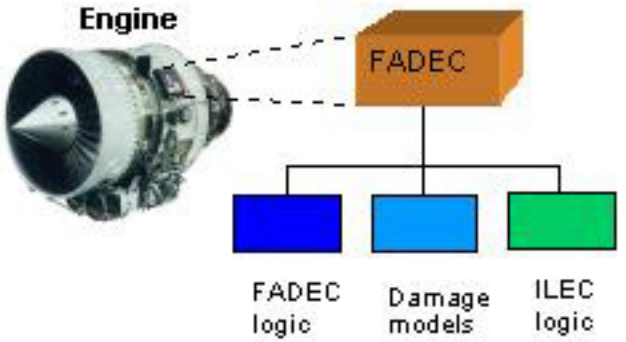
NASA Glenn Success Stories

NASA Glenn Helps Engines Last Longer

Scientific Monitoring, Inc. and Honeywell Aerospace

TECHNOLOGY

Intelligent Life Extending Control (ILEC) research has sought to develop and demonstrate control laws that take advantage of component life estimates to extend on-wing engine life. Recently NASA GRC and other commercial and academic partners have been seeking to apply the technology to existing turbine engines by changing only the controller.



ILEC Control Approach

COMMERCIAL APPLICATION

◆Honeywell Aerospace and Scientific Monitoring, Inc. have successfully demonstrated a life extending control in a flight-grade commercial engine

◆Provide a means of assessing trade-offs between performance and structural durability based on mission requirements and remaining engine life

SOCIAL / ECONOMIC BENEFIT

◆Significant extension of the engine's on-wing life with almost no impact on engine performance and structural durability

◆Fuel savings

◆Reduction in thermo-mechanical fatigue

NASA APPLICATIONS

◆ Technology was originally developed for Space Shuttle Main Engine (SSME) Program

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